

# Open Source Textbooks and Collaboration Workflows

Mel Chua and Sebastian Dziallas

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**[bit.ly/educomm-opensource](http://bit.ly/educomm-opensource)**





**How To Think  
Like A  
Computer Scientist**

# **JAVA Programming**

*Version 4.1  
2008 Edition*

*Allen B. Downey*



Think Python: An Introduction to Software Design

Allen B. Downey

**“I had the unusual experience of learning Python by reading my own book.”**

**--Allen Downey, in the preface to *Think Python***

**We're students.**

**“Education is not the filling of a pail, but the lighting of a fire.”**

**--William Butler Yeats**



**Contribute**

**Tools**

**Infra**

**Tools accelerate  
connections  
between people.**

# **The open source way:**

**Radically pervasive realtime  
transparency done your way.**



twitter 



```
23 === Roadmap merge ===
24
25 * 3 months high-level
26 * 2 releases a year
27 ** 1st of May--Mayday
28 ** 31st of October--Halloween
29 ** audience participation for the win
30 *** Event planning (release parties, FUDCon, FADs...)
31
32 Month 1 - brainstorming
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34 Month 2 - Planning
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36 Month 3 - features onboard
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38 Month 4 - Alpha
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40 Month 5 - Features complete, Beta
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42 Month 6 - PR, icons, banners, websites
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44 ==== Questions ====
45 Q1. Are there defined procedures?
46 A1. Yes, hopefully will address this in more detail later...
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48 Q2. How do you coordinate so many people working on things at
49 once?
50 A2. Transparency and constant communication. Also, different
51 activites have different guidelines (packaging is very strict,
    whereas documentation style varies)
52
53 Q3. How do you ensure volunteers "do the right thing?"
```

Invite other users and they will show

Share this pad

June 8, 2011

Mel Chua: see? thank you!

Robin Price: Sup Matt?

Matt Rogers: Whats up

Matt Rogers: salt

Robin Price: a/s/l?

Matt Rogers: :-)

Robin Price: wait. this isn't #teenchat

Robin Price: This etherpad is really co

Mel: (help taking notes is super-welco

June 11, 2011

Chat:

**Writing sprints**

**Editing drafts**

**Print layout**

**Dead trees**

**Feedback**

**etherpad**

**MediaWiki**

**publican**

**Lulu**

**identi.ca**



# Writing sprints

**Synchronous collaborative typing**

# Editing drafts

**Asynchronous edit-tracks & tags**

# Print layout

Generating different forms of pretty

# Dead trees

**Getting printed copies in your hand**

# Feedback

**Turning consumers into contributors**

**Liberal arts first-years**

**Journalism undergrads**

**2<sup>nd</sup> grade computer labs**

**4<sup>th</sup> grade club members**

**1<sup>st</sup> grade testers**

**Modern American Literature class**

**Innovation**

**Leadership**

**Teamwork**

**Communication skills**

**Global perspective**

**Innovation**

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**--<http://www.engr.psu.edu/future/>**



**“The best way to predict the future  
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**People who can  
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**[teachingopenresource.org](https://teachingopenresource.org)**

**[A new paradigm] “...does not triumph by convincing its opponents and making them see the light, but rather because... a new generation grows up that is familiar with it.”**

**--Max Planck**

**We're in year 5 of  
a 25-year  
revolution in the  
way we teach and  
learn.**

**Make history with us.**



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# Open Source Textbooks and Collaboration Workflows

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*S: Welcome.*

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*M:*

- *We're doing fast tool walkthroughs*
- *Want you to be able to sit back & relax & think about bigger picture*
- *Full slides & notes & instructions for everything we're doing are up here*



S: Schooling used to be a rare thing for the rich. The 1840 census indicated that, of the approximately 3.6 million children between 5 and 15 years old in the USA, 55% attended primary school.

Around the time of the Industrial Revolution, this started to change. Everyone needed a standard skillset, so school buildings were set up, and children grouped by ages into grades, with academic expectations for each grade. Schooling became standard and standardized.

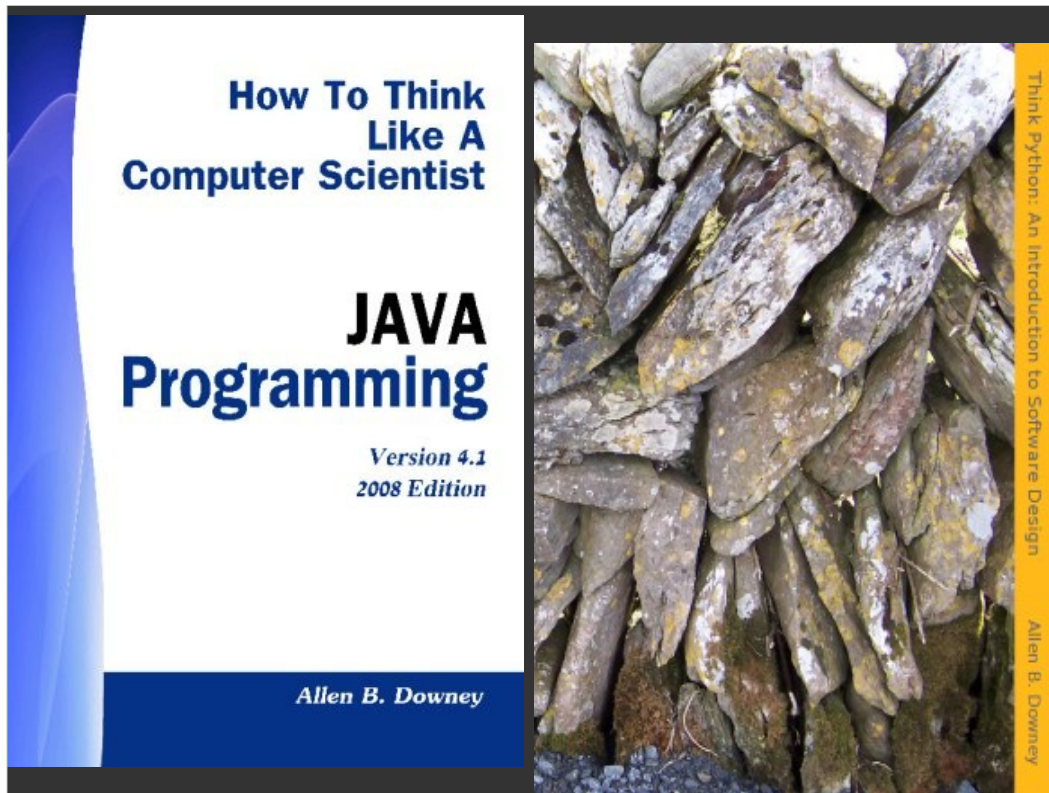
By the year 1870, 30 years later, all states in the USA had free elementary schools. 40 years after that in 1910, 72% of American children attended school.





S:

- Here's Allen, my professor
- Didn't like intro CS textbooks so he wrote his own
- Used Java
- Released under an open content license, which allows people to freely use, share, & remix



M: Allen quote.

“What happened next is the cool part. Jeff Elkner, a high school teacher in Virginia adopted my book and translated it into Python.”

**“I had the unusual experience of learning Python by reading my own book.”**

**--Allen Downey, in the preface to *Think Python***

M: “...he translated it into Python, and I had the unusual experience of learning Python by reading my own book.”

S: How do we foster collaborations like this with other textbooks?

**We're students.**

*S: introductions*

**“Education is not the filling of a pail, but the lighting of a fire.”**

**--William Butler Yeats**

S: We believe learning is not data transfer, but doing.

**Contribute**

**Tools**

**Infra**

M:

- Not just talking about tool usage
- Instead, want students to turn from consumers to contributors

**Tools accelerate  
connections  
between people.**

M:

- Tools are not magic
- They get people to do what they're already doing
- Create affordances that reduce time, distance, other barriers

# **The open source way:**

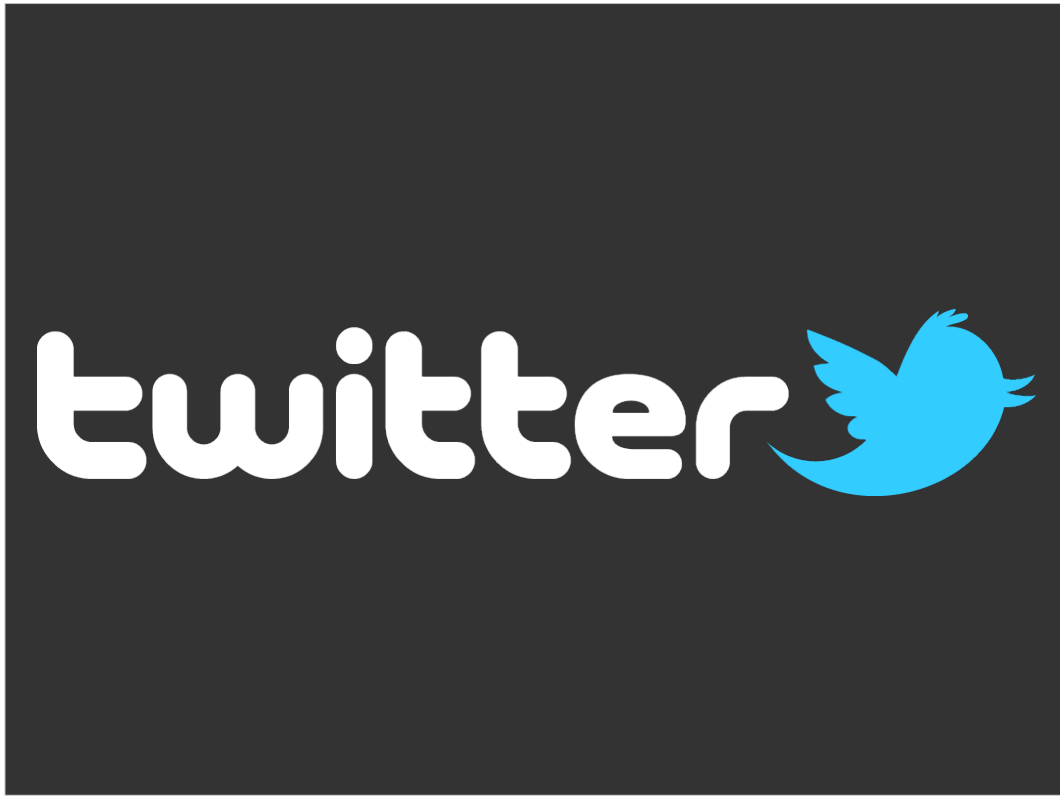
**Radically pervasive realtime  
transparency done your way.**

M: And they're headed in this direction.





M: Purdue sent me campus announcements on  
Facebook



S: You're tweeting our talk now



S:

- But look back at your classrooms
- Identical notes being taken side by side
- Tremendous duplication of effort

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Sebastian Dziallas  
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June 11, 2011  
Chat:   
Zoom: 100%

S: My CS class last fall didn't have that problem

- Used a collaborative text editor, Etherpad
- All took one shared set of class notes in realtime during lecture
- Common study materials, fewer gaps
- Professor could see what we caught & missed

**Writing sprints**

**Editing drafts**

**Print layout**

**Dead trees**

**Feedback**

**etherpad**

**MediaWiki**

**publican**

**Lulu**

**identi.ca**

M: That's the beginning of a workflow. We'll walk you through this.

- 4 open source software tools, 1 open content friendly business – no license fees
- Examples – can be replaced by alternatives
- Only one tool needs to be installed; the other 4 just need a web browser

# Writing sprints

**Synchronous collaborative typing**

S: Etherpad demo

- What is it?
- How does it fit into the workflow?
- Where do I get it?
- What do I have to install?
- Features to show off
  - Collaborative editing
  - Chat
  - Timeslider
  - Export to different formats
- Open source, can install internally; my team at work does

# Editing drafts

**Asynchronous edit-tracks & tags**

M: Mediawiki demo

- What is it? (Wiki, publicly editable webpage)
- How does it fit into the workflow?
- Where do I get it? (Wikibooks)
- What do I have to install? (Nothing, browser-based)
- How do I transfer the previous step's contents in?
- Features to show off
  - Editing page
  - History
  - Roll back
  - User pages
  - User contributions
  - Categories (“tags”) ex: version-branching
- Open source, can install internally or put up custom versions easily (a common thing for projects)

# Print layout

Generating different forms of pretty

S: Publican demo

- What is it?
- Where do I get it?
- What do I have to install?
- How do I transfer the previous step's content in?
- Features to show off
  - Docbook is really simple
  - Run one command...
  - ...and generate different formats from one source
  - Automagically does table of contents, etc.
- Open source, can custom-theme, used for large-scale documentation (ex: Fedora)



# Dead trees

Getting printed copies in your hand

M: Lulu demo

- What is it?
- How does it fit into the workflow?
- How do I get the previous step's content in?
- Where do I get it?
- How much does it cost?
- How long does it take?
- With open content, you can still
  - Get an ISBN number
  - Get sold on Amazon
  - Make money (Karl Fogel & Cory Doctorow: wider audience, spread content, prove value – people will buy)

# Feedback

**Turning consumers into contributors**

S: Statusnet demo

- What is it?
- Where do I get it?
- What do I have to install?
- How does this fit into the workflow?
- Features to show off
  - Hashtags
  - @username
  - Convo threading (Twitter doesn't have this!)
- Open source, can install internally
- Many other blogging & aggregation options available

**Liberal arts first-years**

**Journalism undergrads**

**2<sup>nd</sup> grade computer labs**

**4<sup>th</sup> grade club members**

**1<sup>st</sup> grade testers**

**Modern American Literature class**

M: Broad range of ages & disciplines who've utilized this sort of content ecosystem paradigm

**Innovation**  
**Leadership**  
**Teamwork**  
**Communication skills**  
**Global perspective**

S: They learn a lot

**Innovation**  
**Leadership**  
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**Global perspective**  
**--<http://www.engr.psu.edu/future/>**

S: This list comes from the website of Penn State's engineering department

**“The best way to predict the future  
is to **invent it.**”**

**--Alan Kay**

M: Growing trend – there are many people inventing  
the future right now

**People who can  
help.**

**[teachingopensource.org](https://teachingopensource.org)**

M: They hang out here. Community of practice for getting students involved in projects that practice radically pervasive realtime transparency and self-directed contribution.

**[A new paradigm] “...does not triumph by convincing its opponents and making them see the light, but rather because... a new generation grows up that is familiar with it.”**

**--Max Planck**

S: But independent of the teachers, students are doing these things now. It's going to happen.

I mean, statistically speaking, given the life expectancy of German males and American females, we're both going to be around this planet for another 56 years apiece.



**We're in year 5 of  
a 25-year  
revolution in the  
way we teach and  
learn.**

*M: Workshop dinner story – how long does it take to change an education ecosystem?.*



## M: Wrap-up

- Again, our talk's available & remixable at the link
- Happy to talk about getting your individual classrooms involved
- We also run faculty summer workshops
- Thank you